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ABSTRACT

This practical introduction and guide to the financing of a state-based system of career information is intended for policy makers and practitioners engaged in implementing career information services. Chapter 1 is an introduction to both career information systems and their financing with concentration on service fees as the base for attaining financial viability and other sources as means of augmenting funds collected through service fees. Chapter 2 considers the context for financing a career information system, including the prevailing start-up and phase-out approach in initial system support, determining on-going operational costs, and service fees as the base of support. Some principles of service fee schedule development and experiences of some currently operating state systems are discussed in chapter 3. Two models for assessing fees are outlined--a single comprehensive fee and diversified fee schedules. Chapter 4 reviews some major sources that existing state systems have tapped to augment service fees: (1) in-kind contributions, (2) line item allocation by state legislatures, (3) support from state agencies, (4) support from private foundations, and (5) contributions from private business and industry. Chapter 5 is a summary. Appendixes include a work plan/worksheet for calculating costs and fees and a brief article on relating revenues to expenditures. (YLB)

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FINANCING A CAREER INFORMATION SYSTEM

By Paul L. Franklin

As prepared under contract
for The Oregon Career Information System

October 1979

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FINANCING A CAREER INFORMATION SYSTEM

FOREWORD

Nobody has enough money, or so it seems. Directors and Boards of State-based systems of career information are at least as entitled to that opinion as most people. They face the job of establishing a new service, integrating it in social and educational institutions where retrenchment is the rule, and meeting costs in an economy where inflation drives operating expenses rapidly upward. They must not only seek initial funding but they must also strive to build a reliable financial base that will support the high quality and impartiality of these vital information services. In such an environment, it is remarkable that so many succeed.

How do they do it? That is the question this paper addresses. It is an important question not only because of this unusual success but for several other reasons as well: because career information is an important service, because few social services are sustained without long term federal financing, and perhaps most importantly, because people in many states want to start systems of career information.

Experience of the last eight years indicates that fees for service are the financial cornerstone for these systems. Thus the author has concentrated the discussion on that important approach to financing career information. It is well that he has, for most public sector administrators are inexperienced in market-type revenue generation, and early mistakes in pricing services can be disasterous to a system of career information.

The paper was conceived and written as a practical introduction and guide to the financing of a state-based system of career information. Its audience is composed of the policymakers and practitioners who are engaged in implementing career information services for the people of their states.

This paper is authored by Paul Franklin, who is a freelance educational consultant. In it he draws on the experience of twelve states and the advice of their CIS directors.

He also writes from his own experience, first as a user service specialist for the Oregon Career Information System, where he helped local schools and agencies budget for Career Information System use, and later as the coordinator of Technical Assistance where he helped several states over financial and other hurdles.

Special thanks is due Eric Erickson, Welles Gabier, Deborah Gorman, Roger Lambert, Elton Mendenhall, Leigh Robinson, and James Spensley, all directors of state-based systems of career information, for their thoughtful analyses of their own systems financial histories.

Support for this paper was provided by the Fund for the Improvement of Post-secondary Education, which recognizes the importance of vigorous consumer information services, and the National Occupational Information Coordinating Committee, that has the responsibility for providing assistance to systems of career information.

Bruce McKinlay, Director
Oregon Career Information System

Chapter I

INTRODUCTION

Statewide career information systems were born out of increasing need and desire among school and agency counselors and career educators for relevant, reliable and up-to-date information about education and the world of work. Organized to meet those needs, career information systems typically:

1. Develop and maintain accurate, reliable and current occupational and educational information;
2. Manage delivery systems to get the developed information to users in readable and usable forms, in a timely fashion at convenient locations; and,
3. Provide continuing assistance to user agencies, schools and institutions through training, trouble-shooting and supportive materials to encourage effective integration of the system into instructional and counseling programs.

Systems have been organized on a statewide level to achieve, among other things, economies of scale for costly services, such as information production and maintenance, and system management. That is, there are economies in centrally developing and maintaining information and managing delivery systems at the state level as opposed to having them developed at each user site, or worse, each time a client needs information. On the other hand, economies--and probably some quality--would be lost if a national system were implemented. It would be too far removed from major data sources and the ultimate system users to be operated with the same comprehensiveness and cost-effectiveness as systems at the state level.

Career information systems are staffed by full-time professionals whose backgrounds reflect the variety of expertise needed for system implementation and operation, including: general management, labor market economics, educational research, career counseling and guidance, marketing, and computer and other delivery method management and operation.

All of the 12 current statewide systems operate as public entities. Most are organized as interagency consortia.[1] In each of the consortium systems a board of directors sets policy and is composed of consortium members representing major state data producing agencies (e.g., Employment Service, Board of Education, Board of Higher Education, etc.) and representatives of those who use the system, including secondary schools, colleges and social service agencies.

A major rationale for the consortium approach is that it provides an organizational mechanism for sharing operational costs among members as well as a process for combining the data sources and expertise of participating agencies to help support crucial non-financial aspects of system operation. Put another way, it is unusual for a single agency to be willing to reorder its priorities sufficiently to subsidize the entire cost of a comprehensive career information system. Furthermore, no one agency has a monopoly on the data necessary to develop and maintain the system's information files, nor are all of the system's prospective user populations identified with a single agency. The consortium approach accommodates a sharing of the costs associated with operation of the system by user members and a mechanism for pooling the data sources necessary to implement and maintain a system of comprehensive occupational and educational planning information, as well as a mechanism for ensuring the system's credibility with users.

While the consortium or some similar approach is regarded as essential to attaining long-range financial viability, grant funds have been the primary impetus for meeting initial start-up and implementation costs. The Department of Labor has been the primary benefactor of start-up funds, largely through the Division of Career Information Services national grants program which provided funds for career information systems in eight states, and now through the National Occupational Information Coordinating Committee. The funding strategy has been to provide an initial subsidy for implementation with support declining over time and an increasing portion of operating costs defrayed by state sources until self-sufficiency is attained.[2]

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[1] The exceptions are the California and Massachusetts systems which are organized as nonprofit corporations and Iowa and Michigan where the systems are operated fully by state Departments of Education.

[2] The Department of Labor grant program began in 1975 with the eight state systems to attain self-sufficiency by 1979. The eight are Alabama, Colorado, Massachusetts, Michigan, Minnesota, Ohio, Washington and Wisconsin.

States that have not had the luxury of large start-up grants have taken an incremental approach to implementation. This approach results in a slower development than if large grants were available, but it is a process proving successful in some states.

Whatever the source of initial funding, most states have looked to fees for service, paid by the schools and agencies that use the system, as the primary basis for attaining long-range financial sufficiency. Hence, career information systems are different from most grant-inspired programs in that they are designed from the outset to evolve into self-supporting operations as grant support phases out.

The purpose of this report is to aid others interested in (or in the process of) developing a career information system to devise a workable long-range plan for supporting the system. As a result of this emphasis, the paper purposely provides little analysis of prospective sources of start-up funds.

The experience of many currently operational state systems have been collected through a survey questionnaire and provide the base for much of the report.[3] Yet, it should be remembered that career information systems are still emerging enterprises. Their histories are too short to provide definitive, empirically based conclusions about the best or only way to achieve sustained financial solvency. Moreover, the organizational and financial scheme of education and government in general differs among states and must be considered crucial elements in establishing mechanisms for long-range system support.

Despite these limitations, some principles have emerged from the experience of existing systems which seem important in achieving financial stability. Foremost is that it is the rule and not the exception that some kind of fees for service will have to be assessed in order to meet the full costs associated with continuing operation of career information systems. This report concentrates on service fees as the base for attaining financial viability and looks to other financial sources (e.g., grants, agency support, etc.) as a means of augmenting funds collected through service fees.

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[3]The survey was developed and distributed by the Oregon Career Information System in March of 1979. Thirteen states were sent questionnaires, eight responded.

Chapter II

FINANCING A CAREER INFORMATION SYSTEM: THE CONTEXT

A. Initial System Support: A Start-up and Phase-out Approach Prevails

"How to finance our operation if and when grant funds run out?" is a common and perplexing question among grant-initiated public sector programs. In many cases no workable answer is found and program doors close when funding priorities shift in one granting agency or another, or a new administration takes office and implements "new" approaches to old problems.

Career information systems are different from other grant-initiated programs only in that their grant resources are almost always clearly labeled as "start-up funds" and include the mandate that the systems must find other resources to support themselves if they are to remain in existence. Such has been the strategy of the Department of Labor which provided start-up funds for eight of the 12 currently operating state systems. The same strategy is being employed by the National Occupational Information Coordinating Committee. Two significant differences in the NOICC grant program are that (1) grants will be up to $150,000--or roughly half of normal start-up costs--and states must match the grant amount with other local, state and/or federal monies from the very beginning of the granting period; and (2) grant support will phase out after two years, making it critically important that granted states develop mechanisms for achieving financial support for the system in the very early stages if they are to survive.

States establishing systems with other grant sources and taking an incremental approach have generally viewed those sources as start-up resources as well. Georgia, for example, received a fiscal year 1979 grant of $125,000 from the CETA Balance-of-State prime sponsor to begin implementation of a career information system. While fiscal year 1980 funding has been promised tentatively from the same source, third-year resources will mostly come from other sources.

If, for example, $100,000 is available for first-year implementation (instead of the $300,000 or more that would provide a full subsidy), initial-year goals might well be limited to getting the system "on line" with a centrally located computer; localizing one information file; demonstrating the system at educational conferences and other locations where prospective user schools and agencies can be made aware of its future availability; and establishing "pilot" user sites with a limited number of schools or agencies. Assuming the same amount of grant support for the second year, priorities might be to localize one or two more information files and to bring additional users on line, while continuing to demonstrate the system to other prospective users.

California is one example of an incremental approach. A career information system was initiated in 1976 with $2,000 and the volunteer time of members of the Bay Area Computer Educators. After six months of limited, pilot operation, the California system received a $94,000 grant from the California Postsecondary Education Commission. This allowed the hiring of a skeletal staff, additional information file development and initiation of actual system implementation in schools. Since then, added grant monies have been secured and California is on its way to full-scale operation. It is doubtful, however, that California would be as far along in the process if the system's founders had made implementation contingent on securing a large start-up grant. Without a large start-up grant, beginning small and viewing growth incrementally appears to be a viable way to initiate a system and, equally important, to attract additional start-up funding support. Attracting those additional funds is a key element because even with incremental development, the system must work its way up to a support level of $300,000 or more--the level of support necessary to sustain annual operation once fully implemented.

The exceptions to the "start-up and phase-out" funding approach is found in Iowa and Michigan. In Iowa the Career Information System was initiated by the Department of Public Instruction. Still part of the Department, the Iowa system has been supported almost exclusively from state administered federal vocational education funds since its inception in 1974. The Michigan system foresees a stable financial future on the basis of vocational education and CETA funds.

B. Determining Ongoing Operational Costs

An obvious key to developing a strategy for attaining long-range financial viability is accurate determination of the costs associated with system operation.

The Department of Labor indicates that

> ...key cost elements...are establishment of the consortium, management of the system, information development from existing data sources, adoption and/or adaptation of an information delivery system, in-service training, and marketing and services to schools and other agencies which use the CIS, and information delivery. . . .[4]

While some of the associated system costs accrue directly to establishment of a new organization, start-up costs are not significantly higher than operational costs. In describing some of the characteristics of system costs, McKinlay indicates that:

- The costs of operating the system are not trivial. Information files must be written, materials must be produced and distributed, and the staff of user agencies must be trained. Implementing a system is not simple a matter of loading a computer program on a new machine, but requires an inter-disciplinary staff and appropriate management systems;
- Not only are costs substantial, they are continuing. Labor market information is of frustratingly short useful life,. . . so files must be continuously updated. Moreover, personnel in schools must be introduced to the system and experienced personnel shown more creative ways to use it. One-time implementation costs are a small part of the cost of operating the system; its costs are not front-loaded;
- The marginal costs of added information (added occupations, new topics, local geographic areas, etc.) are high relative to average costs, but marginal costs of serving additional users are low. The reason is that costs of information development and management are relatively fixed, while the costs of materials and computer time are a function of the number of users.[5]

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[4] Employment and Training Administration, Career Information Systems: Standards for Organization and Development (Washington, D.C.: U.S. Department of Labor, November, 1977), p. 30.

[5] Bruce McKinlay, "Organization of a Career Information System: The Oregon Approach," Labor Market Information For Youths, ed. by Seymour L. Wolfbein (Philadelphia: Temple University, 1975), pp. 253-262.

These and other factors add up to annual operational costs of $300,000 to $500,000 per state, with the precise costs dependent on: state size, occupational complexity of the state, number of supplementary information files, computer delivery costs and how those costs are included within the operating expenses. Whatever the case, annual operating costs are substantial. Consequently some stable, continuing process for attaining and maintaining financial viability must be developed if the system is to continue to exist and provide high-quality service. The assessment of fees for service has been considered by most implementing states the foundation for financing their systems. Other sources, such as budgeted allocations from state agencies, state legislatures, or grant funds, are viewed generally as resources to augment service-fee revenues. Thus, while service fees may not support system operations totally, they are seen as the dominant revenue source, with other sources used to fill gaps between operating expenses and service-fee revenues.

C. The Case for Service Fees

There are several compelling reasons why fees for service have been considered the base of support for career information systems. McKinlay indicates, for example, that in Oregon

> Both the plan for and implementation of the Career Information System have been based on the proposition that agencies who utilize the System should provide the financial support for it as well. This strategy is based on both practical and theoretical considerations: no state agency has funds to fully underwrite such an operation, and user agencies can be expected to demand higher performance of the System if they are paying for it.[6]

What was true in Oregon seems to be holding true in other states as well. With the exception of Iowa and, to a lesser extent, Michigan, no one state agency has stepped forward and agreed to fully subsidize operational costs. Even if they would, there are arguments for shunning single-agency support in favor of the fee-for-service concept:

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[6]Bruce McKinlay, Developing a Career Information System (Eugene, Oregon: University of Oregon, 1974), p. 169.

- Because the system is not dependent on one agency for support or too closely aligned to any particular agency, it can maintain a political neutrality important to providing candid and accurate information. For example, information analysts are free to give equal weight to all extant data sources without being subjected to the pressures of the "use this source, our agency produced it" syndrome. Educational program offerings can be analyzed and information provided candidly to users without the need to protect vested interests, which might creep into information files if the system were too closely associated with one educational institution or type of institution.
- Since the costs of system operation are spread among all user agencies, discontinuation of the service by one agency does not mean termination of the system if the other users continue to support it. Hence, there is some protection against shifts in program priorities of any given agency--changes that have brought extinction to more than one useful program that has relied on single-agency support for its existence. On the other hand, if all or a majority of the users decide to terminate support, the system obviously is not meeting their needs and should be discontinued.
- Schools and agencies seem more inclined to support and use a service in which they have input. The service fee and consortium concept guarantee not only that input but significant user control over the operational policies and priorities of the system.
- Fees for service keep the system close to its users. To succeed, the system must respond to the changing and emerging informational and service needs of users. The existence of the system requires responding to user needs or facing loss of "subscriptions" and ultimate extinction. This close accountability to user needs is important to an information system whose single purpose is to meet the needs of those it serves. Service fees keep the system accountable to users.

Despite the arguments for service fees, the concept is not easily accepted throughout the public sector. Some view user fees as a form of "double taxation" since publicly provided grant funds are typically used to subsidize the initial stages of system implementation. But system costs

are not front-loaded. They remain relatively constant. As a result, someone must pay for the operation of the system -- costs which are separable extensions and not duplications of start-up costs.

Others argue for free provision of services from the perspective that user fees do not have a bona fide place in the public sector and that there are equity and morality issues involved that defy argument. Yet, there are many examples of other public sector services for which fees are assessed on the basis of use. Some common examples are fees for use of public mass transit systems, public utilities and water systems, park and recreational facilities, highways, and tuition fees for publicly-supported postsecondary educational institutions.

Moreover, the Bureau of Census reports that an increasing proportion of city revenues in the U.S. are attributable to fees assessed for particular services, with 19 percent of total city revenues coming from such sources in 1977.[8] And, the Advisory Committee on Intergovernmental Affairs contended that "the equity of charging the proper economic price for a public service is analogous to charging the proper economic price for bread or milk.[9]

Due and Friedlaender indicate that financing governmental efforts through user charges ". . . allows the price system rather than the political process to determine the amount to produce . . . . Accordingly, the complexities of political process decision-making are avoided, with greater assurance that determination of output and resource use are in conformity with the preference of the community."[10] This conceptual justification for service fees is an important one to career information systems since it is the informational needs of users that should set "output" priorities and not the prevailing preference of state government, for example, which is too

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[8]U.S. Bureau of the Census, 1977 Census of Governments, Finances of Municipalities and Township Governments; and Finances of County Governments

[9]Advisory Committee on Intergovernmental Affairs, Revenue Diversification Income, Sales Taxes and User Charges (Washington, D.C.: U. S. Government Printing Office, 1974). p. 8.

[10]John F. Due and Ann F. Friedlaender, Government Finance Economics of the Public Sector, 6th ed. (Homewood, Illinois: Ruhand D. Irwin, Inc., 1977. p. 78.

far removed from the system's ultimate users to represent those informational priorities effectively. Service fees allow adoption of a straightforward approach to determination of the scope of services: if users want a service and are willing to pay for it, then it can be provided. Hence, the system stays in position to interpret user preferences correctly--a position Due and Friedlaender point out as difficult to attain when public services are financed through other, more politically sensitive resources.[11]

Yet, it should be mentioned that the sources used to defray service fees are almost always from local, state or federal appropriations made to a given user institution to meet its operating expenses. As a result, user institutions, in effect, make the choice to use a portion of those appropriations to "buy" access to the career information system, and they benefit accordingly. So, the ultimate resources that support career information systems are, indeed, some form of tax revenue, even though the route is more circuitous than if revenues were appropriated directly to the systems.

Despite the apparent strengths of the argument for service fees, it is still a concept that must be "sold" to state policymakers and users alike when a new career information system is being organized. Sound budgeting principles must be practiced and users must be involved in setting system priorities and, therefore, fee schedules, either directly or through their representatives on the consortium or non-profit board of directors. In short, they must be convinced that the service they receive is worth the price they pay.

Some principles of service fee schedule development and the experiences of some currently operating state systems are discussed in the next section of this report.

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[11] Ibid.

Chapter III

DEVELOPING FEE SCHEDULES

A. Fees for Service and Initial System Implementation

While fees for service appear to be the most effective and reliable method of long-range financial support for career information systems, revenues derived from fees cannot be expected to cover full costs--or even a major portion--of operation from the very beginning. Getting a system into operation is a developmental process: a consortium or other policymaking organization must be established; an interdisciplinary staff must be hired and put in place; information files must be localized; support materials must be developed; computers capable of operating the system must be located and agreements struck with vendors to run the system and/or computers must be purchased; and alternative delivery systems (e.g., microfiche, needle-sort, hard copy, etc.) must be developed, if appropriate.

Moreover, the concept, product and concomitant benefits of the system must be "sold" to prospective user institutions. While many will be enthusiastic from the outset, others must be helped to overcome suspicions of computers and/or have demonstrated to them that there is, in fact, a need for high-quality career planning information among their service constituents.

Further, the sheer size of the state and the number of prospective school, college and agency user sites dictate that the system cannot be put in place overnight, nor can sufficient fees be collected immediately to meet a major portion of initial implementation costs. The first year may well find certain geographic areas targeted as "pilot" locations with subsequent expansion in the second through fourth years of operation until the system is available in all geographic areas of the state. Thus, first-year revenues from fees may be more symbolic than a major source of revenue.

The idea of system establishment as a three- or four-year developmental process (or longer if an incremental approach is taken) is important because it underlines the significance of having sufficient start-up funds to support the system while it is being put in place. Hence, the first year might well require

full cost subsidy with that support declining over subsequent years as more user institutions are added and additional fees are collected. Even then, revenues derived from fees may have to be augmented by other resources to cover all operating costs.

Even if a full subsidy is available during the initial phase, experience indicates that it is still important to assess fees for use of the system from the very beginning. User schools and agencies need to become accustomed to paying fees for the system's services. Experience shows that it is extremely difficult to extract fees from users for a service they have previously received free. Thus, it is better to charge a fee from the beginning.

Charging realistic fees at the outset enables the system to build up revenues to meet continuing costs as grant funds decline and ultimately subside. Collecting fees from the start and beginning early transition from grant funds very likely will be even more important to state systems funded by the NOICC grants program, since the grants are expected to be only about two years in duration and will require a dollar-for-dollar match from other sources. Thus, assessing service fees from the beginning can help to meet the matching requirement and is a necessity if a smooth transition from grant funds is to be accomplished in just two years. As Leigh Robinson, Administrative Director of the California Career Information System, aptly observes, "For such a transition, money has to be available, not anticipated."

Another argument for fees from the beginning is that many prospective user institutions will need "lead time" of a year or even two to get budgeting approval to purchase the system's services. Establishing a clear and equitable fee schedule in the early going will enable many prospective users to attain the budgetary wherewithal to buy into the system at an earlier point than if they are kept unaware of the ultimate costs.

For the same reasons, it is important to assess fees initially that will not require significant, surprise increases once start-up funds run out or are less abundant. Several existing state systems have started by assessing a nominal fee for system services with the expectation that they would increase the fee schedule as grant support declines, only to find that user schools and agencies were disinclined or unable to meet the increased fees. Making it clearly known that low fee must necessarily go up when grant funds subside does not seem to make large increases any more palatable.

While higher initial fees may mean that fewer user sites may be able to buy into the system in the short run, they will at least prepare user sites for the costs that need to be incurred to utilize the system over the long run. And, it is the sustained use of the system by large numbers of user schools and agencies that will provide ultimate financial stability, not an "in this year and out the next" pattern of usage. As the Wisconsin Career Information System has observed, "The fee structure should encourage new sites to join and discourage existing users from dropping the service."[12]

It is important to recognize, however, that the initial version of the system may be incomplete (i.e., information files not fully developed, user support materials missing, etc.) and not "worth" the same price as the fully developed system. To compensate, yet accustom users to the concept and level of fees desired, free introductory service or discounts may be offered. Or, schools and agencies may be solicited as "pilot" sites and given a price break or free service in return for piloting the system and participating in evaluation activities. If such strategies are used, however, participating sites must clearly understand that they are getting the system in return for effort on their part in demonstrating or evaluating the system. Negotiations for their commitment of time or other resources are part of the demonstration or pilot agreement. This approach emphasizes that a discount or free introduction carries with it some concomitant cost. An effort should also be made to extract some commitment beforehand that if the pilot or evaluation proves successful, the sites involved will continue use of the system and will pay the full fare associated with its use.

B. Considerations in Developing Fee Schedules

Assessment of fees for service is a way of recouping all or most of the costs of providing those services. As such, the single most important variable in developing workable schedules is ensuring that the fees assessed, in fact, cover the costs of the services to which they are related. More than one currently operating career information system established and assessed fees without careful regard for how those fees related to the total costs of providing particular services. One state system, for example, assessed an initial fee of $300 per month to user sites. That fee was to be a single comprehensive fee to users, including costs of computer time, a telephone line, lease of a

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12 From materials provided by the Wisconsin Career Information System for development of this report.

portable computer terminal and a "fair share" of the operational costs of the system (e.g., management, information analysis and file maintenance and user service activities). After a year and a half of operation, system staff analyzed their fees against actual expenses and found that the $300 figure was not even fully covering the computer, telephone and terminal lease costs, let alone helping to pay operational costs such as staff salaries. As a result, a substantial fee raise to $450 per month was necessary and was accompanied by all the problems discussed previously with selling user institutions on large, unexpected hikes in fees.

1. Relating Revenues to Expenditures: A Case Study

Development of fee schedules tied closely to revenue needs and budgeting processes is a principle that must underlie the establishment of viable schedules. If fees are to help recoup costs of system operation, those costs must be known both in the aggregate and by individual service and function. It is not enough to know, for example, that it costs X dollars for the printing of a single needle-sort deck[13] if needle-sort fees are to recover full production costs, including distribution, mailing, staff development time and other real costs.

Figure One (on the following page) exemplifies this point by providing breakdowns for the Fiscal Year 1978 costs associated with needle-sort production incurred by the Oregon Career Information System. The Oregon CIS fee policy for needle-sorts is that the needle-sort should cover its own costs. As a result, the Oregon CIS charges a per needle-sort fee that is separate from its user service fee -- an assessment that goes to support other service and operational costs beyond delivery systems costs (e.g., information maintenance, user services and their related management expenses).

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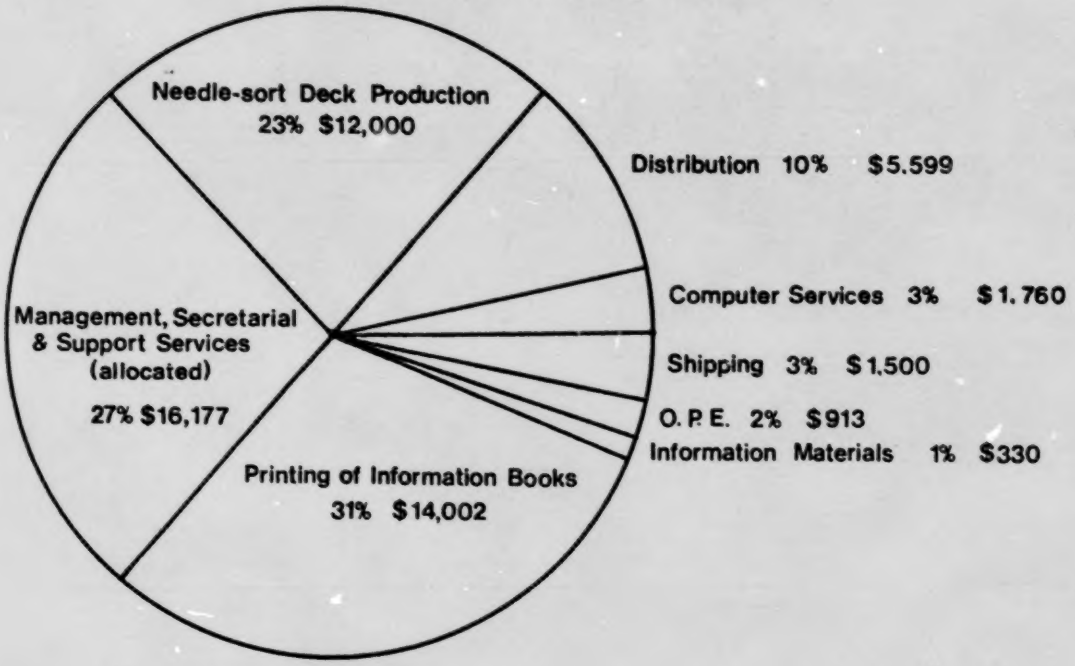
[13] The needle-sort is a manual delivery device developed and used by several states as an alternative to computer delivery.

FIGURE ONE

NEEDLE-SORT AND SUBSCRIPTION COSTS, FISCAL 1978

Total Expenses: $52,281

Where the Money Goes:



*General Management expenses related to production cost.

Figure One illustrates the importance of considering all costs incurred in production of a given service in developing an adequate fee schedule, because materials account for only about half of the needle-sort's cost. It is also important to consider any cost variances which occur as a result of differences in the volume of orders and/or production.

Figure Two (on the following page) illustrates that the Oregon CIS made those further calculations based on current orders (i.e., 650 decks) as well as estimated costs for increased production levels.

FIGURE TWO

Oregon Career Information System
Needle-sort Production Costs
Costs Based on 1977-78 Prices*

COSTS PER DECK	QUANTITY		
	650 DECKS	925 DECKS	1300 DECKS
Needle-sort cards	$ 18.54	$ 17.36	$ 17.00
Books (PROG, DESC, SCH I & II)	19.98[1]	17.29	13.69
Box, Label, & Needle	2.35	2.35	2.35
United Parcel Service (UPS)	4.49[2]	4.49	4.49
Distribution Time	5.64[3]	5.64	5.64
Return Time	2.50[4]	2.50	2.50
Management Production	2.50[5]	2.50	2.50
Administrative	16.00[6] (29%)	15.00 (28%)	14.00 (29%)
Cost Per Deck	72.00	67.13	62.17

[1]Including .61 per book for computer costs associated with formatting the files and program

[2]Includes three UPS mailings: $2.38 for needle-sort and occupational books, $1.14 for school books, and $.97 for Spring occupational books.

[3]Calculated on 1.5 persons; the first person is the coordinator
C = clerical staff
S = workstudy student

[4]Expenses incurred in the return of rented decks for updating each year.

[5]Includes needle-sort coordinator, editor, and production coordinator.

[6]Includes a prorated share of general office support, administration, and bookkeeping.

*NOTE: These costs, based on 1977-78 prices, are not reflective of current prices due to the substantial increase in cost of paper since 1977.

The Oregon CIS resolved to price on current needle-sort use and not on the basis of increased quantity. This leads to another principle of fee schedule development and the budgeting process: fees must be developed and revenues anticipated with knowledge of and in coordination with the system's marketing plan. If, for example, user service staff do not have the staff to sell 900 needle-sort decks or if the needle-sort market is already saturated, it makes little sense to budget and set fees on the forecast that 900 needle-sorts will be sold. Similarly, in establishing new systems, it is important to set any and all fees and anticipate corresponding revenues based closely on the number of user sites to which the marketing staff believe they can sell the system during the budgetary year. Even then, alternative plans of action must be developed to account for revenue shortages should user service staff forecasts come up short.

In summary, service fees must reflect all real costs associated with the provision of the particular service, with anticipated revenues estimated in light of a realistic and achievable marketing plan. Attachment One includes a set of materials developed by Oregon CIS to assist new systems in developing fee schedules, assessing operating costs and estimating revenues. These materials may prove useful to newly implementing states in working through fee schedule development, much as the foregoing example illustrates how Oregon CIS worked through needle-sort pricing.

2. Fee Schedules and System Marketing

There are other issues related to system marketing that also must be considered in setting fee schedules:

- What is the relative worth of the system's service to prospective user agencies and schools? Are the services viewed as critical and/or integral to users' service programs or are they viewed as a nice but unnecessary embellishment that will not be purchased (or quickly phased out) if costs are too high?

- To what extent are users willing to support the system financially? Is there a commitment to long-run support after the "newness" wears off?

- Is there a point of cost above which users will not support the system? If so, how does that point relate to anticipated current fees? Expected fee

levels three to five years hence? How does that point relate to funding levels needed to operate the system currently as well as five years from now?

Moreover, if user services staff are to be able to market the system effectively, fee schedules must be understandable to users. Leigh Robinson indicates that it is advisable to "make fees easy for neophytes to understand and calculate." Schedules should be kept simple and readily explainable to counselors and other service staff who may or may not be sophisticated in budgeting principles but will have a sense of whether the system's services are worth the "bottom line" costs.

Whatever the fees are, they must be published well in advance of normal school and budgeting cycles so that appropriate allocations can be built into the budgets of user institutions. Schools, for example, normally build their budgets in the fall for the subsequent school year. They need to know about a year in advance what the expected system fee schedules will be so they can work them into their budgets. That requires system staff to project expenses and needed revenues in order to set fee schedules in time to meet school and agency budget deadlines. This is an important consideration in fee schedule development, particularly with increasingly tight school and agency budgets. Without the lead time, schools and agencies probably will be at a loss to find the resources necessary to support system usage, no matter how badly they want to use it.

C. Owning Computers: A Consideration In Fee Schedule Development

Before looking further at fee schedule options, it is worth digressing to discuss whether new career information systems should purchase their own computers or rely on existing ones. A controversial question in the career information system community, consideration of this issue needs resolution before the determination of which basic fee schedule alternatives should be utilized.

Computers have two separate yet related functions in career information systems: (1) to be used in information file maintenance (e.g., data entry and updating); and (2) as devices for delivering the system to users. Having the computer capability to accomplish both functions must be a consideration

in whether to purchase computers, but delivery is the much larger role.

The most important consideration revolves around a careful analysis of the existing computer environment in the state--an environment which varies significantly among states. Are there sufficient computers in place--both in number and type--for operation of the system? Do existent computers have adequate storage space for the system's program and information files? Can suitable arrangements be made to ensure cost-effective computer access by system staff for information file and software program maintenance?

For many states, these and other questions suggest the need for a thorough assessment of the existing computer environment before determining whether to purchase computers. In other states, the issue may already be resolved by an acknowledged lack of computer capability (as in Colorado) or conversely, as a result of a well-defined computer network already being in place, with state policy requiring its use (as in Minnesota). In any case, a close look at the existing computer picture is the first and most important issue in considering the purchase of computers.

The next consideration is whether there is the financial wherewithal to make the heavy initial investment required for computer purchase. A "mini-computer" system with the accompanying hardware necessary to provide "time-share" services will cost $60,000 or more--a figure that does not include expensive maintenance contracts and costs associated with operating a "time-share" computer system. Also, one computer will not provide access to all prospective user institutions, which means the purchase of additional computers as each subsequent system reaches its upper limit of efficient use. The emergence of micro-computers with sufficient storage for all of a career information system's files would also shorten the economic life of a mini-computer for this purpose.

In assessing the relative advantages of owning computers, Jim Spensley, Director of the Minnesota Occupational Information System and a computer expert, observes that

> ...there is more profit in selling computer time than in selling information. Information helps to sell computer time. Therefore, own your computers or negotiate very firmly with computer centers for a portion of the revenues they derive for providing access to your systems.

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[14]From information provided by Jim Spensley and the Minnesota Occupational Information System for preparation of this report.

Spensley's assessment is sound: if existing computers are used for information delivery, a good deal of revenue goes to the computing center. If the system owned the computers, it would get that revenue. To date, no career information system that relies on existing computers has recouped much of the computer revenues that go to computing centers, possibly because they have not "negotiated firmly," as Spensley suggests.

In Oregon, where the Career Information System uses computers owned by others, most user institutions pay over $2,000 per year for computer time--revenue which goes to computing centers and not to CIS.[15] With approximately 210 separate sites using the computerized version of the Oregon CIS, some $420,000 in potential revenue goes to computer vendors that might go to the System if it owned computers.

These figures alone seem to argue for owning computers, but Oregon CIS staff have stayed out of the computer business. They believe it is more cost-effective for user institutions to access CIS through computer facilities which already provide those institutions with other computer services. Owning, operating, and maintaining computers is, indeed, a costly endeavor. By relying on existing computers, CIS reasons that the total service will cost users less than if CIS were to purchase separate computers.

Leigh Robinson says that California decided not to purchase computers because

> ...there were so many computers already in place in educational institutions when EUREKA began, that it was more appropriate to program the system to fit many machines than it was to purchase one or more machines. EUREKA does, however, rent terminals to its users who want them.[16]

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[15]Some user institutions pay hourly computer time fees while others pay an annual "port fee", regardless of time used. Hence, it is difficult to ascribe accurately the average per user cost for computer access in every case.

[16]From materials provided by Leigh Robinson and EUREKA, the California Career Information System, for preparation of this report.

Whether to purchase computers or to rely on existing ones depends on the ability of existing computers to provide access to the system in a cost-effective way. Even if they can, this still leaves open the issue of striking arrangements with computing centers for a portion of the revenues derived from computer time sold to access the career information system. Why current systems have not made more arrangements of this kind is not known.

D. Fee Schedule Options

One fee schedule alternative that has been discarded as unworkable by all existing systems, yet on the surface appears attractive, is charging on the basis of the actual number of students or clients who use the system. This option has been discounted as impractical for several reasons. First, it is difficult to count actual users. If a teacher, for example, uses some occupational descriptions to discuss careers in a health class, are the participating students to be counted as users? The computer system cannot count individual users without creating bulky computer files, and the manual delivery systems have no built-in recordkeeping system. Someone at each user site would need to count individual users if this option were used. That would be unwieldly as well as costly.

Second,and most importantly, virtually all user institutions are public agencies operating on annual budgets. Their budgeting process makes it more important to have a predictable budget figure before the start of the budget year than to have an actual count of users at the end of the year. Of course, predictable fee schedules are advantageous to career information systems as well, but their principal benefit is to user agencies.

Consequently, all state systems have adopted fee schedules that yield predictable budgets for user institutions,even though the actual number of system users may exceed or fall short of anticipated numbers. (Nearly every public school or agency maintains a count of clientele on which they receive state or federal support, a good figure to use in calculating fees for services.)

This principle applies equally to the pricing of computer services. An annual or monthly "port" or terminal fee which gives user institutions unlimited

time on the system is preferable to an hourly rate which must be estimated at budget time and rationed throughout the year.

Having rejected actual counting of users, there remain essentially two models for assessing fees that have been used by current state career information systems: One is a single comprehensive fee that covers both computer delivery costs and operational costs such as information analysis, user service activities and system management. The second is a diversified set of fee schedules, each offsetting the costs of particular services.

1. One Comprehensive Service Fee

Those states which have chosen the single, comprehensive fee model are primarily those which have purchased and operated computer systems. The exception is Ohio where the CIS has worked out agreements with some of the computing centers to provide access to the system for a single fee. In any event, the single fee model includes costs for computer time and a fair share assessment to cover costs associated with information file maintenance and for other services such as support materials and in-service training.

The Alabama Occupational Information System (AOIS), for example, assesses a single monthly fee which includes computer access and time charges, and the fair share costs to each user for support of information maintenance, user services and support materials. Users have unlimited access to AOIS-owned computers; however, telecommunication costs from the user site to AOIS's leased phone lines and terminal rental are covered separately by user agencies and institutions.

The advantage of the single fee approach is that it keeps things simple for the users. A single fee is easy to explain and is readily understandable by user institutions. It also minimizes the number of bills that must be paid monthly by user institutions, which may have an added psychological benefit as well.

Figure Three (on the following page) is a fee schedule of the Ohio CIS for users in the Cincinnati area. It further illustrates the simplicity and easily explained nature of the single fee model.

FIGURE THREE

career information OHIO system

CINCINNATI AREA FEE SCHEDULE

Charges for the Ohio Career Information System in the Cincinnati area are:

$ 230.00 per month

For this fee we will provide:

1. Computer Time

2. State Information Developed by O.C.I.S.

   a. State Occupational File
   b. Vocational School File
   c. Proprietary School File
   d. State Financial Aid File
   e. Career Resources File
   f. Help File
   g. Localized Economic Information File

3. National Information Developed by Time Share Corporation (GIS)

   a. National Occupational File
   b. Two-Year College File
   c. Four-Year College File
   d. Graduate School File
   e. Armed Services File
   f. National Financial Aid File

4. Training of School/Agency Staff

   a. Initial thorough training of entire counseling staff
   b. Follow-up training
   c. Technical assistance via toll free hotline
   d. Training materials

5. Program Materials

   a. User Guides
   b. Instructors Manuals
   c. Instructional Poster
   d. Quickie Questionnaire

Equipment Costs

Additional charges include the computer terminal. Terminals may be leased or purchased. Costs on leasing terminals range from $ 75.00 to $ 150.00 per month. The cost of purchasing terminals range from $ 1,200.00 to $ 2,500.00. Maintenance contracts are available on either option for a minimum charge.

Telephone Costs

Telephone charges are an additional cost. Please contact your local telephone company for these charges.

More Information

For more information on computer terminal equipment contact Dr. Marion Kent, Cincinnati Public Schools, (513) 369-4995.

For more information on O.C.I.S. contact your area representative on the toll free hotline, 1-800-282-0116 (in Columbus call 466-8987).

2. Diversified Fee Schedules

The second and prevailing service fee model is characterized by a set of fee schedules with each fee offsetting the costs of particular services. This model prevails among state systems that rely on existing school and agency time-share computers to provide the space for the system's software program and to facilitate access by user institutions. A fee is most often assessed for computer access and time by the computing centers themselves--a fee which will most likely vary depending on the pricing policies of particular centers.[17] The career information system, then, charges a separate fair share fee (or fees) to cover its costs for information file maintenance, user services, support materials and associated management expenses. In addition, it may charge computing centers a fee for the right to operate the system on their computers and for associated software maintenance costs.

While most states use the diversified fee schedule approach, there is little consistency in how they price, short of attempting to make fee schedules readily explicable and accountable for offsetting the particular costs associated with the given service to be covered. Some systems, for example, break fees down into particular cost components while others do some "component" pricing as well as distinguishing by categories of user institutions.

Perhaps the most straightforward pricing approach is that of EUREKA, the California Career Information System. EUREKA assesses computer sites a first-time installation fee of $1,000 which includes costs associated with software maintenance and information file update for the initial year. Thereafter, computer sites pay $250 per year for program maintenance.

User schools and agencies, then, pay a "user service fee" to EUREKA based on the number of terminals they make available to their service constituents to use in tapping the system. The per terminal "user service fee" covers pro-rated information file maintenance, user services and training, support materials and associated management expenses.

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[17]Some computing centers charge on a per hour basis, while others assess an annual "port" fee which provides the user with unlimited access to the computer for the purposes of using the career information system. Still other computers are owned by the school, district or agency that will use it to gain access to the career information system and no computer time charges are assessed.

Figure Four below delineates the EUREKA per terminal fee:

FIGURE FOUR

EUREKA, THE CALIFORNIA CAREER INFORMATION SYSTEM USER FEE SCHEDULE

1 terminal	$1,500
2 "	2,750
3 "	3,750
4 "	4,750
5 "	5,750

For each additional terminal, the user fee is $700
Sites with 500 or fewer students or clients pay a minimum user fee of $1,000.

In addition, EUREKA users must pay associated telecommunications and computer time costs, if any, to respective vendors (e.g., telephone company and computer site). Leigh Robinson says the typical EUREKA user enters the system on an in-house computer and, therefore, does not pay computer time charges to some outside source. However, if a EUREKA user site does not own a computer, EUREKA staff help identify the alternative computer systems that provide access to EUREKA and help the user analyze the costs associated with using EUREKA through one of the alternatives. Associated computer fees to the user are contingent on the pricing schedules of the computing center ultimately selected.

In contrast, the Wisconsin Career Information System (WCIS) assesses separate fees for different "components" of its total service. Thus, there is a separate fee for "development" (i.e., costs of information maintenance and update and operation of overall WCIS program); "in-service" (costs for training services and a minimum quantity of materials; "site administration" (costs associated with fee collection, site monitoring and various other tasks associated with WCIS delivery to a single site); and, "materials and on-site services" (costs for additional materials above the minimum and supplementary services available to users). In addition, users must pay separately for computer time and telecommunication.

Figure Five lists WCIS fees for each of the four service components.

FIGURE FIVE

WISCONSIN CAREER INFORMATION SYSTEM
FEE SCHEDULES

A. Development Fee

$0.32 Per Potential User[18]

B. Inservice Component

$225 Per Site

C. Site Administration Component

$25 Per Site

D. Materials and On-Site Services Component

Priced on a cost-recovery basis

In addition, WCIS offers discounts to users of WCIS as part of a defined "consortium" group. WCIS has identified 11 such consortia (Milwaukee Public Schools and the University of Wisconsin System are two such "consortia" whose members would be eligible for discounts). According to WCIS pricing policies,

> ...the consortium should represent an existing administrative structure and/or logical geographic group; second, the consortium should represent sites with similar service concerns; third, the consortium should be of manageable size to facilitate inservice efforts.

[18]Potential users are equivalent to the total enrollment of a school or the total service population of an agency.

With or without discounts, the assessment of individual fees for particular component services has its advantages and disadvantages. It is easier to relate expenditures to revenues since each component must be priced to meet its associated costs. Moreover, component pricing displays visually to users the costs associated with each component service of the total system -- a conceptual display lost in the single fee model.

On the other hand, component pricing is more complex than the single fee approach. It may be more difficult to explain to user institutions, and adds to their bookkeeping and bill payment chores.

The Oregon CIS utilizes a variation of the component pricing model in its fee schedules in that it separates totally costs associated with CIS services and costs associated with delivery systems and assesses separate fees for each. The fee for CIS services is described as the "user service fee" and is based upon a flat fee per estimated user. Oregon CIS distinguishes in its fee schedules between "developmental subscribers" and "full service consortium members." Developmental subscribers are new user sites that generally are experimenting with the system to determine its applicability within their program. Developmental subscribers pay a flat $3 per estimated user with a minimum of $300.

Full service consortium members, in the case of schools, are those which have estimated that two-thirds of their student populations will use CIS during the course of the service year and have budgeted accordingly. In this case, user institutions pay $1.75 per user for the first 3,200 estimated potential users and $ .75 per user thereafter.

Thus, Oregon CIS offers a discount to promote the banding together of individual schools or agencies into "group agreements" to take advantage of the substantial price break that occurs after reaching the 3,200 user-level.

Just as with Wisconsin's consortia approach, Oregon CIS reasons that there is real cost savings in promoting large group agreements, notably in receiving help in materials distribution, system troubleshooting, and in the organization and delivery of in-service training -- responsibilities given to a "CIS Coordinator" designated from the ranks of one of the members involved in each group agreement. As a result of the discount price for over 3,200 users and the promotion of group agreements, Oregon CIS has been effective in arranging some large group agreements that have gone a long way in providing a financial base for the system. Multnomah County, the most populous county in Oregon, is a

full-service consortium member as a result of budgeting and using Oregon CIS with two-thirds of all students enrolled in grades 7 through 12 in county schools. As a result, some 33,260 of CIS's total users are covered in the one group agreement with Multnomah County, resulting in $22,400 collected in user service fees.

As mentioned, Oregon CIS separates its user service fee from costs associated with delivering the system. Thus, users of the computerized version must pay terminal, telephone and computer time fees to respective vendors in addition to the user service fee which goes to Oregon CIS. Users of the manual needle-sort delivery system pay an annual fee of $78 (in 1978-79) for the needle-sort and hard-bound copy of the information files, in addition to the CIS user service fee.

In Fiscal Year 1979, Oregon CIS covered 83 percent of its expenses through revenues derived from its service fees. The remaining revenues were derived from two sources: in-kind contributions from the University of Oregon, largely for the provision of office space and associated expenses, and funds from a grant from the State Department of Education. Figure Six details the percentage of total Oregon CIS that resulted from the respective service fee in fiscal year 1979.

FIGURE SIX

REVENUE DERIVED FROM OREGON CIS FEE COMPONENTS
FISCAL YEAR 1979

Fee Component	Percent of Revenue
CIS Services (information maintenance, user services, etc.)	
User Service Fee	56%
Delivery Systems:	
Needle-Sort Subscriptions	16%
Information File Hard-Copy Subscription	2%
Computing Centers Software Lease	8%
Prime Vendor Contracting	1%
	83%

As the oldest of the state career information systems, Oregon CIS, not surprisingly, accounts for a larger percentage of its revenues from service fees than do its younger counterparts. Most other states, however, anticipate building revenues derived from service fees at least to the point where they cover 50 percent or more of the total operating costs.

Figure Seven (on the following page) illustrates the full Oregon CIS pricing schedule.

In addition to the fees listed in Figure Seven, Oregon CIS assesses computer sites an annual software lease fee of $2,000 to cover costs associated with software maintenance, information file update and other associated computer service costs.

In assessing the foregoing examples of fee schedules, there are variations in form, yet each in its own way accounts for the real costs in ongoing operation of a state career information system. The Wisconsin CIS fee schedules are more graphic reflections of this point, inasmuch as a separate fee is assessed for each system service function. California and Oregon system fee schedules are also based on a rigorous budgeting process aimed at insuring that the respective fees, in fact, cover associated operating expenses, even though that fee-to-expense relationship is simplified in the actual pricing schedule.

The concept of discounts for group participation is used by several state systems and is based on the reality that there are economies of scale to be realized in serving groups of users as opposed to serving each user site individually. For example, a school district or county or citywide group or secondary schools might qualify for a discount like that offered by the Wisconsin CIS in identifying someone to help coordinate in-service training sessions and by having centrally provided in-service sessions. This arrangement would contrast with an environment in which WCIS has to arrange for in-service training with each individual school and provide training on an individual basis. As a result of such group arrangements, there are real cost savings to WCIS which are passed on to users in the form of discounts. In WCIS's case, a discount of $5 per consortium member up to $100 is given against in-service component fees and the full site administration fee is discounted <u>if</u> the consortium collects other WCIS fees and monitors the usage of the system by consortium members.

Similar discounts are offered by several other state systems, including Oregon CIS as indicated previously. While it is a proven strategy useful in marketing the system, caution should be taken to ensure that group discounts still yield the necessary revenue to offset expenditures.

Finally, the importance of relating fees to operating expenditures cannot by over emphasized. It is a key to realization of sufficient revenues from fees to offset substantially continuing operating expenses. Attachment Two documents further the concept of relating fees and other revenues to expenditures as outlined by Oregon CIS staff in prelude to building fee schedules for 1978-79.

FIGURE SEVEN

Oregon Career Information System

Office of the Director
247 Hendricks Hall
University of Oregon
Eugene, Oregon 97403
(503) 686-3872

1979-80 Pricing Schedule

USER SERVICE FEES

Operating as a consortium CIS is supported by the institutions that use the service. Information analysis and user service costs are apportioned among user groups on the basis of their estimated user population. The CIS Board has developed three pricing categories that reflect levels of user group involvement.

1. Developmental subscribers: Schools or agencies wishing to experiment with CIS for a short time to determine methods for using the System and an appropriate measure of "full-service":

   $3.00 per user

   $300.00 minimum (fewer than 100 users)

2. New consortium members: Groups using CIS at "full-service" for the first time:

   $1.75 per user for the first 3200 estimated potential users

   .75 per user for estimated users over 3200

3. Continuing consortium members: Groups continuing to use CIS at "full-service" pay a simple 6% increase over their 1978-79 contract fee.

DELIVERY SYSTEM FEES

1. Computer delivery: Computer delivery expenses include the terminal, telephone line, and computer time. Users of the computer delivery system may obtain terminal, telephone, and computer services directly from those service providers or through the user's computing center at their established rates. On request, CIS will make arrangements for these delivery services and handle billing. The fee for this extra service is:

   30% of communications and computer charges the first year

   15% of these charges after the first year

2. Manual delivery: Users of the manual delivery system rent the occupational needle-sort delivery system, which includes occupational and educational printouts, directly from CIS. Subscriptions of additional printouts are available. The fees for these materials are:

   A. Rental of the CIS occupational needle-sort system is $82.00 each and includes one complete set of occupational and educational printouts.

   B. Annual subscriptions of additional printouts:

	CONSORTIUM MEMBERS (with user fees)	NON-CONSORTIUM SUBSCRIBER (without user fees)
Occupational Information (issued twice yearly)	$16	$70
Programs of Study and Training (annual issue)	$11	$45
School Information, Volumes I & II (annual issue)	$22	$45
Combined Subscriptions	$43	$140

CIS SERVICES

The Career Information System operates as a non-profit consortium of schools and agencies which make full use of the system for their clientele. CIS policies, prices and services are determined by the CIS Board of Directors which is composed of consortium members. The concept of "full-use" implies that consortium members have integrated CIS materials into their career and vocational planning and guidance procedures.

Consortium members are assessed fees based upon 2/3 of their total user base. These fees support the objectives of the consortium by paying for costs associated with information update, printing, training of agency personnel, travel, production of materials, and management.

Consortium members receive the following services:

1. Occupational information: Current and localized information regarding job duties, work setting, required aptitudes, outlook, wages, and ways to prepare for most Oregon occupations.

2. Program and school information: Current information describing programs of study and training in 135 areas and complete information on all post-secondary schools in Oregon.

3. Training: Comprehensive training for new users, Fall regional up-date training, and specialized training for CIS secondary school and community college cadre.

4. User Handbooks: Each student/client receives a user handbook that assists them in getting started by asking questions concerning their interests and abilities as well as explaining how to use the System.

5. Implementation Handbook: Each site coordinator receives this manual which outlines in detail the what and how of CIS. Of particular interest to educators is the section which demonstrates over 50 different learning activities that employ CIS in guidance and instruction.

6. Newsletter: User sites periodically receive the CIS "Update" newsletter that highlights important CIS activities as well as notes of interest for vocational and career counselors, teachers and administrators.

7. Follow-up services: CIS maintains a User Service staff that works with schools and agencies to solve problems, plan new uses, and to improve the System's operation.

The material includes a breakdown of Oregon CIS revenues and the associated expenditures they were to offset in Fiscal Year 1979. Close study of these documents should help in both budgeting and establishing viable service fee schedules.

E. Summary

Most states in establishing career information systems have looked to fees for service as the best way to long-range financial viability. No state at this stage in its development relies exclusively on fees to offset all operational costs; but if they are to do so, fees must be based on recovery from each user institution a "fair share" of the total expense incurred in operating a comprehensive system. They must also be simple and explicable with their development and revenue anticipations closely tied to the system's marketing plan. The system's marketing plan can be enhanced by taking advantage of conditions in the state that can work to the benefit of the system. The Minnesota Educational Computing Consortium (MECC), for example, already provided computing services to all high schools in Minnesota when the Minnesota Occupational Information System began implementation in 1975. MOIS chose to use MECC as the delivery vehicle for the system and, thereby, enhanced its ability to market the system because users essentially saw that they were buying a new "service" of the already familiar MECC.

The existence of Educational Service Districts (ESD's) at the county level in Oregon in part stimulated Oregon CIS to offer discounts to schools which could organize into large groups. Since the ESD's traditional role has been to coordinate selected services for schools on a county-wide basis, they became the point around which schools organized into group agreements and received the cost breaks illustrated previously.

Taking advantage of similar existing conditions that can help directly or indirectly to stimulate system usage is yet another useful strategy in laying the groundwork for long-range financial viability for a career information system. While existing systems have used differing fee schedule approaches, most have paid cautious attention to the foregoing principles in developing fees and relating them to revenues. Collectively, existing systems have experiences--both good and bad--that ought to be very useful to new state systems as they look to building financial bases that will provide continuing system support.

As repeatedly mentioned, most states have adopted fees for service as the basis for that support, yet no state yet has collected sufficient fees to offset all operating expenses. To compensate, most have augmented fee revenues with funds from other sources. The next section of this report reviews some of the sources that existing state systems have turned to in their search for additional revenue.

IV. AUGMENTING SERVICE FEES WITH OTHER REVENUE SOURCES

Fees for service are viewed by most state career information systems as the crucial underpinning of long-range financial stability. Yet, the systems have also looked to other resources--sometimes with success and sometimes not--to make up revenue differences.

Complicating the process of gathering these resources is the fact that many are difficult and costly to secure and, most frequently, of short duration. Thus, they tend to be "stopgap" resources--support while other user institutions buy into the system or while other arrangements are being made to secure the necessary financial base.

It should be mentioned again that no attempt is made here to review sources of start-up funding for statewide career information systems. Rather, this section deals briefly with some of the major resources state systems have tapped--or have attempted to tap--to help meet operational expenses after start-up funds have diminished or disappeared. The purview is limited further in that the section does not provide an exhaustive account of each and every source tapped by one state or another, nor does it detail particular strategies that worked (or didn't work). Moreover, the promise of many of the sources appears dependent on the practical, political and fiscal realities operating in a given state--realities which may or may not be similar in other states. Nevertheless, the content should be useful to new states in isolating key sources of support that may prove valuable.

Among the revenue sources most frequently considered "promising" are: (1) in-kind contributions; (2) line item allocation by state legislatures; (3) support from state agencies; (4) support from private foundations; and, (5) contributions from private business and industry. The following is an assessment of the prospects of each source in view of the experiences of operating state career information systems.

A. IN-KIND CONTRIBUTIONS

Of the alternative resources states have looked to for support, the most successful appears to come in the form of in-kind contributions. By definition, in-kind contributions rarely find actual dollars flowing from a benefactor into the coffers of the career information system. Rather, real costs to the system are offset, in one form or another, by a particular agency or institution.

The most prevalent example of in-kind contributions finds several existing systems receiving full or partial offset of costs associated with office space and facilities. In this case, the system's fiscal agent contributes an "in-kind service" by not charging, in full or in part, for office rent, utilities, janitorial services, and other such costs of space and facilities. The benefits that accrue are not insignificant when computed in dollars: the Oregon CIS, for example, indicates that they received the equivalent of $31,000 (or 9 percent of the total CIS operating budget) in 1979 by the University of Oregon providing office space and associated services without charge. While not a direct cash contribution, this support offsets real costs to the system that would otherwise have to be met with real dollar outlay. Moreover, in-kind contributions have the advantage of being relatively painless from the fiscal agent's standpoint.

Beyond support for office space and facilities, several states have nurtured other forms of in-kind contributions that have direct financial benefit. EUREKA, the California system, for example, has arrangements with four of its member schools whereby computer services used for data entry and software maintenance are provided on an in-kind basis. EUREKA is able to maintain various versions of its software as well as its information files without paying for associated computer expenses.

Several states have designated local or county school and/or agency personnel officially as "CIS Coordinators" to assist user services staff in troubleshooting, materials distribution and organizing and performing in-service training. Doing so extends the user services capability of the system--an important and costly function that would be even more expensive if service lines could not be established and costs offset through local in-kind contributions. The value of these contributions, of course, varies depending on the level of involvement of local coordinators and the extent to which they are relied on by central system staff. Nevertheless, the value accrued can be significant and can add up to the equivalent of staff functions that otherwise would have to be supported directly from the system's operating budget.

In short, the various forms of in-kind contributions comprise significant support to most state career information systems and offset real costs that would otherwise have to be met if these contributions were not secured.

Most states surveyed in preparation of this report indicated that the per state dollar value of in-kind contributions would total $100,000 or more if added together and a dollar value ascribed--a total that impressively illustrates the significance of in-kind contributions to the financial stability of the system.

The keys to obtaining in-kind contributions are in developing and nurturing relationships with agencies and individuals in a position to contribute to the system and in exploring the possibilities of working together in mutually beneficial ways. If, for example, a school district has a designated career education director, it may be mutually advantageous to have the director identified and trained to serve as "CIS Coordinator" for the district. The career education director/CIS Coordinator will have interest in the system and responsibility for its utilization in the district, and it may be an easy task to formalize the relationship to the benefit of both parties.

The in-kind services that may be developed are numerous in range and the benefits plentiful. As Leigh Robinson says, "If in-kind services are available, use them. EUREKA could not have survived without them."

B. LINE ITEM ALLOCATIONS FROM THE STATE LEGISLATURE

Of all the prospective sources of financial support for a state career information system, legislative appropriations seem the most logical. Services and benefits are statewide, and they are not the kind of emotional or value-laden services which may elicit strong legislative discord. Yet only a few state systems have attempted to secure legislative funding and those that have, have found the going less than easy.

Those systems that have not attempted to secure legislative support have apparently chosen not to in deference to building a secure financial base on the revenues from service fees. In their case, arguments against seeking legislative support probably stack up similarly to those of Due and Friedlaender in their weighing of service fees against "politically sensitive" allocative processes. Legislative allocations are volatile--subject to annual or biennial scrutiny and sudden shifts in program priorities or the political winds that may not be related to the efficacy of operating programs. Service fees, while not immune to shifts, are more dependable and enduring resources as long as the system's services continue to meet user needs; or so the argument goes.

Yet, there are very recent examples of a state systems' going to the legislature for support and succeeding. The Minnesota Occupational Information System (MOIS) recently received a Fiscal Year 1980 legislative appropriation of $150,000 and Wisconsin CIS received $135,000 from its legislature to help meet operating expenses over and above those covered by anticipated service fee collections. These successes are a breakthrough for career information systems; but in both cases, success with users preceded legislative support.

The prospect of attaining legislative support for a state system and, therefore, the relative worth of pursuing this option, probably depends on the political and fiscal realities operating in the state and the extent to which system staff believe that building a financial base on service fees is preferable to reliance on allocations by way of the political process.

C. SUPPORT FROM STATE AGENCIES

Several state systems have been able to gain financial support from state agencies that do not themselves use the career information system but have an interest in their success and their use by local institutions that the agencies directly or indirectly serve. Examples include state-level CETA programs (i.e., Governor's discretionary appropriations) and departments of education. Coming most often in the form of grants, this kind of support usually is in one of three forms:

- As a grant or contract to perform a particular service, such as providing the system to all CETA prime sponsors in the state;
- As a grant or contract to support development or refinement of a particular product or to perform an enhancement of the system; and,
- As a "no-strings" grant or contract that goes to general support of the system.

The first two forms of support are the most prevalent from non-user state agencies, as well as from other sources, that systems have been able to tap. Nevertheless, there are several examples where systems have been successful in gaining significant "no-strings" support, largely from the state-level CETA programs and/or from Vocational Education Act funds as administered by the states.

The Michigan Occupational Information System, for example, is fully supported by funds allocated to it from the Department of Education and the

State Department of Labor. In Michigan, funds from the guidance and counseling set-aside of the federal Vocational Educational Act allocation are provided to the Michigan OIS by the Department of Education. The State Department of Labor provides the system with operating funds from the Governor's CETA discretionary funds.

As a result, Michigan OIS provides its services free to user institutions, although user sites must still pay for associated delivery costs (e.g., terminal rental, computer time and/or microfiche readers). Joe McGarvey, Director of the Michigan OIS, believes his system has been able to better penetrate user agencies and schools and build up stronger support for the system by relying on state-level subsidy rather than service fees. Moreover, McGarvey suggests that state-level support frees staff to concentrate on production rather than marketing.

Iowa is the other state career information system primarily supported by a state agency allocation, as mentioned previously. Beyond Michigan and Iowa, however, the Oregon and Ohio systems have been able to develop support from state agencies that is not earmarked exclusively for developmental projects. The Ohio CIS receives "no-strings" support from its State Occupational Information Coordinating Committee and from state-level CETA discretionary monies that is expected to offset approximately 50 percent of system operating expenses on a sustained basis.

Oregon CIS has received $25,000 to $35,000 per year from the State Department of Education to support general system operations since 1975. Those funds have come from the guidance and counseling set-aside of the Vocational Education Act allocations.

Most other state systems have been able to secure contracts from state-level CETA discretionary monies to provide services to particular user institutions, including libraries, community counseling agencies and high schools as well as CETA prime sponsors. Unquestionably, CETA discretionary monies administered at the state-level are a valuable source of supplementary revenues for state career information systems. Experience has proven, however, that there is no standard strategy for successfully obtaining state-level CETA funds. While Michigan, for example, has been able to secure substantial state CETA funds to support general system operation, most other systems have had to define specific projects or service constituencies to tap state CETA

resources. Some further examples of this latter type of support:

- Wisconsin CIS received a Fiscal Year 1979 grant of $75,000 to provide the system to 42 prime sponsors. It has also received support for 12 Public Service Employment (PSE) positions from the state CETA to use to staff regional user service positions.
- Ohio CIS has a CETA Youth Employment and Training Program grant which supports use of the system at 35 high schools and joint vocational schools.
- The Minnesota OIS has received an $84,000 grant from state CETA funds to establish 32 community career counseling centers. Additional support for the project is provided by the prime sponsors (staff and administration) and local education agencies (computer equipment and time).[19]

So, the various levels and forms of CETA support have proven to be important sources of financial support for career information systems. All state systems have tapped CETA resources in one form or another; and rely on CETA as a mainstay of support. Exactly what support--and therefore how much money--a new career information system can expect from CETA depends on at least the following factors:

- How well the system is accepted by CETA personnel as a significant improvement in career information delivery;
- The availability of uncommitted CETA resources at the various levels of the network;
- The extent to which CETA allocations are politically determined and, therefore, the ability of system staff to make the right political connections.

Beyond CETA, the other most widely tapped source by state career information systems has been Vocational Education Act funds as administered by the state. The VEA guidance and counseling set-asides seem the most particularly applicable resource for career information systems.

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[19] Examples taken from a summary of the impact of CETA on state career information systems compiled by the Division of Career Information Services, U.S. Department of Labor.

D. SUPPORT FROM PRIVATE FOUNDATIONS

Few state systems have attempted to tap private foundation support. Those that have sought such support have been unsuccessful and indicate that foundations are more interested in innovative developmental projects than they are in providing operating funds. Even at that, foundation support is difficult to secure. Rather than attempting to tap foundations directly, systems may be better advised to encourage user institutions to seek appropriate foundation support for projects that included system usage.

E. CONTRIBUTIONS FROM PRIVATE BUSINESS AND INDUSTRY

This source of potential revenue appears relatively untested by current state systems, which perhaps more than anything reveals its present lack of potential. When queried, all responding state systems indicated either that they had not explored the possibility of contributions or they thought the appropriate effort would be to market business and industry as prospective users of the systems.

It appears that the latter strategy has merit since working adults often need career information and usually have far less access. Yet, to date, no state system has been eminently successful in selling its services in the private sector, although Wisconsin and California have had limited successes. Whether business and industrial settings have been marketed aggressively is not known. However, it is safe to conclude that business and industry probably are not bountiful sources of general contributions to augment other system resources. And, their potential as users of career information systems is probably best assessed on an individual basis, depending on any given organization's interest in providing what are usually considered non-essential services to employees.

F. SUMMARY

Each of the existing state career information systems has been able to locate and secure financial support for its system to augment service fee revenues. Indeed, Iowa and Michigan have secured sufficient financial support

from state agencies to avoid the need to assess any service fees at all. Likely as not, however, their ability to do so results from political and fiscal factors peculiar to their respective states and not some fund-getting formula transferable to the situations of other state career information systems. Yet, newly established state systems should research carefully current uses of state-level CETA monies and Vocational Education Act appropriations. It may well be that either or both of those sources can make a significant contribution.

Of the other supplementary resources states have sought, in-kind contributions are the most fruitful and enduring. They also have the advantage of being relatively painless contributions because they are generally not direct dollars: but they can be significant and of real dollar value to the system. Beyond that, in-kind contributions are more immune to withdrawal--a vulnerability among other kinds of non-fee support.

In addition to the sources identified previously, one other deserves mention. That is the use of competitive grant funds for system support. Several state systems have sought federal competitive grants and, less frequently, similar state grants, to augment revenues. Success rates generally have been low. When grants have been secured, they have been almost always specifically for product development. While such grants may help to meet uncovered operating expenses, they obviously must go first to the development of the proposed product. Hence, their immediate benefit in making up revenue deficits may be negligible. But there should be long-range benefit once the new product is developed and implemented, at least to the extent that new users may be attracted or a higher price may be charged.

Nonetheless, this source has not proven to be a major resource for any of the existing systems.

V. CONCLUSION

State career information systems have been initiated largely through grant resources. However, unlike most grant-initiated programs, career information system grants have almost always been labeled "start-up funds" and include the mandate that the systems must find other resources to support themselves if they are to remain in existence.

How the systems have met this challenge is not mysterious; yet there is no step-by-step formula that emerges from the experience of existing state systems as a guarantee of financial security and, with it, continuing success. It seems clear that most state career information systems have found the assessment of fees for their services as the most viable and secure base of financial support. How they assess those fees varies according to staff philosophies and various conditions of significance within the states. How the systems make up differences between service fee revenues and monies needed to meet full operating expenses varies as well.

Career information systems are still emerging enterprises whose histories are too short to warrant definitive conclusions about the best or only way to achieve sustained financial solvency. However, some important principles for financing systems have emerged. Those principles provide a good check-list for newly implementing career information systems to use in avoiding pitfalls and in maximizing opportunity for long-range success. Among those principles are:

- Start-up funds most often will be just that, so the system will need to secure increasing revenues from other resources to remain in existence. Fees for service have proven to be the prevailing source relied on by most state systems.

- A key to attaining long-range financial stability and to developing service fees is accurate determination of costs of system operation. Operational costs are not front-loaded but are relatively constant over time. Depending on the size and conditions within the state, annual operational costs will range from $300,000 to $500,000.

- There are several arguments in support of assessing fees for the services provided by career information systems. Fees keep the system accountable to users; guarantee the system's neutrality; provide protection against shifts in program priorities that might bring extinction to the system if it relied on single-agency support; and, user institutions seem more inclined to support and use the system if they have direct input.

- Many user institutions will have to be sold on the benefits of the system and why it is worth a fee before they will buy.

- The system cannot be put in place overnight and neither can sufficient fees be collected immediately to meet major portions of initial implementation costs. Expect the developmental period to last three or four years.

- Charge a realistic fee from the very beginning. The revenue will be needed and doing so will accustom users to paying what the system is worth from the start. It also avoids springing large, hard-to-sell fee increases on users later.

- If free use or discounts are given to user institutions for piloting the system, obtain commitments for continued use at full cost if the pilot phase is successful.

- Estimate service fees and anticipated revenues in light of a realistic and achievable marketing plan.

- In developing fees, make sure they cover the costs of the services to which they are related.

- Fee schedules must be explainable and understandable to those not sophisticated in budgeting principles. Keep them simple.

- Publicize fees well in advance of the budget year in question. Many user institutions will need at least a year's notice to budget for system use.

- Whatever service fee model is used, make the costs to users predictable to accommodate their budgeting processes.

- Group discounts are a good marketing strategy and, indeed, may achieve economies of scale which reduce system operating costs. Caution must be taken, however, to ensure that the discounted fees still yield the necessary revenues to offset system expenditures.

- Most resources available to augment service fees come to support new product development or to extend the service to new constituences, although some states have been able to garner some "no-strings" support.

- Of the alternative resources available, in-kind contributions are the easiest to secure. Coming in a variety of forms, in-kind contributions rarely involve actual dollars entering the system's coffers. Yet, they offset real costs to the system and can be of real significance in achieving financial solvency.

- In securing in-kind contributions, it is important to nurture relationships with agencies and individuals in a position to contribute to the system and explore mutually beneficial possibilities with them.

- Of the other available sources, CETA and Vocational Education Act funds stand out as the most promising to career information systems. Both have been tapped in a variety of ways by systems, including no-strings support for systems operation.

APPENDIX 1:

From A Steering Committee Guide for Planning a State-Based Career Information System (Second Review Draft) compiled by Wendy M. Arnold (Career Information System, December 1978).

III. CALCULATING COSTS

Estimating implementation costs does not follow some magic formula. However, we can draw from the experiences of twelve states to derive some fairly dependable implementation cost estimates. The following workplan exercise is designed to help you make a preliminary estimate of implementation costs for your state. You will need to prepare a formal budget later on when you develop your proposed plan.

> The work plan serves as a rough operating costs estimate to give you a basis for estimating the financial feasibility of a career information system for your state. It is quick and somewhat crude, but useful.

* * * * * * * * * * * * * * * *

WORKPLAN

PURPOSE: Define preliminary cost estimates for implementing a state-based career information system.

CONSIDERATIONS:

1. The cost estimate assumes implementation of a system which contains the major occupational and educational components.

2. A detailed operating budget will need to be developed later.

3. Budget components and basic professional staff requirements for a state-based career information system are:

Budget Components	Staff Requirements
Information Analysis	Staff for analyzing and formatting existing data for use by consumers.
User Services	Staff to provide service to institutions and agencies through marketing, consultation, inservice training and follow-up.
Computer Services	Staff to load data and assist users with computer service. (Does not require professional staff.)
Management	Staff to direct program activities and maintain a central office.

CONSIDERATIONS (Continued):

4. Suggested basic professional staff to operate a career information system includes:

Executive Director (1)	
Information Analysts:	
Basic State Occupational Information (300 occupations)	(2.75)
Educational Information	(1.5)
User Service Specialists	(2)

5. If your state plans to serve more than two large metropolitan areas, consider supplementing the basic user service staff with one user service specialist for each additional large metropolitan area served.

6. Operating cost estimates can be calculated according to the number of professional staff to be employed. The operating budgets of state systems implementing career information systems were analyzed to arrive at the following rough rule of thumb:

1 Professional Staff, including:

- salary
- fringe benefits (20%)
- secretarial & computer services staff
- services and supplies
- travel, training

Total Cost: $30,000 - $35,000

If salaries in your state are lower or comparable to the national average, estimate $30,000 operating costs per professional staff position; if they are higher, estimate $35,000. This estimating of operating cost does not include delivery costs or indirect costs.

7. Delivery costs are those costs related to acquiring and running software programs. Hardware and equipment needed to disseminate the information are in existence in most states and are adequate to serve the career information system for the first year. Since funding agencies are usually reluctant to subsidize the purchase of computer hardware, use of existing computers in the state is encouraged.

CONSIDERATIONS (Continued)

8. Your total budget should be one that can be supported eventually as an operating budget by your state through user agency fees and/or other monies.

PROCEDURES:

- - - - - - - - - - - - To Determine Staff Size - - - - - - - - - - - - - -

(The number of occupational information analysts for your state will reflect both the economic complexity of the state and the availability of existing data. Procedures 1-4 will help you evaluate these factors.)

1. Begin with the basic state occupational information staff (2.75 FTE) described above.

2. Consider the complexity of your state and indicate the number of occupations to include in your system (most state systems maintain around 300 occupations):

NUMBER OF OCCUPATIONS _____

If more than 300 occupations are to be included, add additional analysts to maintain those occupations beyond 300 at the following rate: 12 hours per occupation per year.

ADDITIONAL ANALYSTS REQUIRED _____

3. List the local economic areas for which information will be developed and indicate the total number of areas:

_____ _____

_____ _____

_____ _____

_____ _____

TOTAL NUMBER OF AREAS _____

PROCEDURES (Continued)

For each six economic areas localized, add one additional analyst.

ADDITIONAL ANALYSTS REQUIRED _____

4. List existing sources of data on occupations and educational programs which will be used by your system's information analysts. *(Obtain this information from your Employment Security Agency, State Department of Education, 1202 Commission or other agencies.)*

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

If data sources are scant, add one additional analyst.

ADDITIONAL ANALYSTS REQUIRED _____

5. Calculate the total number of occupational information analysts your state will need *(refer to Consideration 4 for basic staff formula)*. If procedures 2-4 revealed that additional staff are required, indicate so below.

Basic Occupational Information Analysis Staff		2.75
Additional Analysis Staff from Procedures 2-4	+	_____
TOTAL	=	_____

6. Identify coordinators or cooperative services in secondary education that exist in your state by completing Worksheet III. 5.

7. If no cooperative services exist and you are unable to identify secondary education personnel who are willing to coordinate career education activities for groupings of schools, add one user service specialist to your estimated user service staff.

ADDITIONAL USER SERVICE STAFF REQUIRED _____

WORKPLAN
Preliminary Cost Estimates (continued)

PROCEDURES (Continued)

8. Calculate the number of User Service Specialists needed:

Basic user service staff (serving a state with one or two metropolitan areas)		2
Add one staff for each additional large metropolitan area served	+	_____
Additional staff identified from Procedures 6-7	+	_____
TOTAL USER SERVICE SPECIALISTS	=	_____

9. Calculate the total professional staff needed:

Executive Director		_____
Occupational Information Analysts (adjusted total from Procedure 5)	+	_____
Educational Information Analysts	+	1.5
User Service Specialists (adjusted total from Procedure 8)	+	_____
TOTAL PROFESSIONAL STAFF	=	_____

10. Calculate estimated costs (excluding delivery costs and indirect costs). Use your findings in Consideration 6 to choose one of the formulas below.

_____	X	$30,000	=	$	_____
Professional Staff					Estimated Cost

OR

_____	X	$35,000	=	$	_____
Professional Staff					Estimated Cost

PROCEDURES (Continued)

- - - - - - To Determine Computer Set-up Costs - - - - - - - - - - - - - -

11. Using Worksheet III.9 research the computer resources in your state.

12. Calculate first year computer set-up costs (excluding purchase of a computer):

Software Leasing Fee (paid to software vendor)		$	7,000 estimated cost
Purchase of 2 Terminals (1 for data entry and 1 portable for demonstrations)	+	$	5,000 estimated cost
Computing Center Fees *	+	$	10,000 estimated cost
TOTAL FIRST YEAR COMPUTER COSTS	=	$	22,000

** Includes conversions necessary to load the software on the existing hardware, connect time for loading, and technical assistance from the programmer. In many states the computing center will waive these charges because of the income the center will derive from usage fees from the career information system's user sites.*

PROCEDURES (Continued)

13. Calculate your total preliminary costs:

Estimated Cost	(procedure 10)	$ _____
Computer Costs	(procedure 12)	+ _____
TOTAL PRELIMINARY COSTS*		= $ _____

** The total preliminary costs do not include indirect costs, such as the fiscal agent's administrative charges, rental of space and equipment, etc. You will need to consider these charges when you develop a proposed budget for the initial implementation of the system.*

14. Consult with a professional staff member from another state career information system before reaching more definite conclusions.
(If your state received a Career Information Workshop under the FIPSE/ NOICC grant project, your workshop consultant will be able to provide this assistance as part of the workshop follow-up.)

AREA COORDINATORS

In many states there are persons or cooperative services in secondary education responsible for coordinating educational activities, such as career education and educational materials distribution, for a number of schools in a given geographic area. In Oregon, these persons are 'Regional Career Education Coordinators.' In Colorado, 17 regional 'Boards of Cooperative Services' provide centralized career education and other support services to groupings of school districts.

Identifying 'key' educators in each area of the state and working with them to implement a system of career information proves to be the most efficient way of marketing and maintaining your secondary school population.

Identify similar types of coordinators or cooperative services in your state. The State Department of Education, Department of Instructional Services, should be helpful to you in this endeavor.

POSSIBLE AREA COORDINATORS ARE:

COMPUTER CAPABILITY

To implement a computer-based system of career information, you will need to know the computer resources that exist in your state.

Standard hardware vendors in your state should be contacted. Upon explaining your mission, these vendors in turn should be able to provide you with a list of sites (educational/governmental) using their specific hardware. You will want to be looking at timesharing systems, asking the vendor the name of the make, model and language of the system.

You need not be concerned at this point with the column on "FEES" (which you will use in another exercise) or whether these sites could immediately house a career information software package; you are merely discovering computer resources as one of your first tasks.

VENDOR	LOCATION OF COMPUTERS	FEES

VENDOR	LOCATION OF COMPUTER	FEES

IV. CALCULATING FEES

The cost estimates (calculated in Section III "Calculating Costs" of this handbook) will serve as a basis for estimating long-range financial requirements of a first-class system in your state.

More than likely you will question why operating costs are not expected to diminish once initial implementation of the system has occurred. Implementation costs are not front-loaded, as was pointed out in the introductory remarks to this section. In fact, your costs continue as you replace obsolete information and fine tune your system in response to the needs of the users in your state. Moreover, training and other services are on-going. However, the costs of serving additional users can be partly offset by people willing to coordinate distribution of career information materials and to trouble-shoot in their areas.

> The following workplan will aid you in determing potential support required for your system. It will not produce a pricing schedule but will give you a basis for estimating the financial resources in your state for a career information system.

* *

WORKPLAN

PURPOSE: To determine financial resources within the state for support of a statewide career information system.

CONSIDERATIONS:

1. User Fees: User fee, service fee and per capita fee refer to a way of proportioning information and service costs among agencies that use the system. Fees support staff and materials which are essential to operating a career information system.

Service costs may be reduced if some of the services normally rendered by the career information system user services staff can be borne by some cooperative service units in the state.

2. Delivery Fees: Fees cover the cost of acquiring and operating the delivery system in user agency sites. This includes computer time and equipment as well as manual delivery materials.

3. Delivery fees and user fees sometimes are presented as one fee, but for purposes here the two fees will be considered separately.

PROCEDURES:

- - - - - - - - - - - To Determine Service Fees - - - - - - - - - - - - - - -

1. Identify the information and service portions of your "Total Preliminary Costs" *(see Procedure 14 of the Preliminary Cost Estimates Workplan)* by the computations given below. The manual delivery system costs (if included) are subtracted because those costs will be covered in the following section on "Delivery Fees."

Total Preliminary Costs		$ _____
Less manual Delivery System Costs	-	_____
ESTIMATED OPERATING BUDGET	=	$ _____

2. Using Worksheet IV.2, list the groups that can benefit from career information and that you intend to service immediately. Defer any that will not likely be major users in the first year or two. Indicate the total population below:

Total Estimated Users from Worksheet IV.2	=	_____

3. Calculate your per user fee by dividing your estimated operating budget *(Procedure 1)* by your total population figure *(Procedure 2)*:

$ _____	÷	_____	=	_____
Estimated operating budget		Total population		Per user fee

- - - - - - - - - - - To Determine Delivery Fees - - - - - - - - - - - - - - -

COMPUTER DELIVERY

4. Survey the computer centers you identified on Worksheet III.9 for their cost per connect hour, calculate the average cost, and indicate it below *(Computer delivery fees vary depending on the computer accessed and there is no set fee for charging out computer time. However, a*

PROCEDURES (Continued)

typical charge is normally $3.50 per connect hour. If you implement a career information system, you will want to encourage the computer centers to charge an annual port fee which gives a user site unlimited access to the computer for the year and thus encourages usage.)

Connect costs in my state average $ _____ per connect hour.

5. Add an additional $.25 per connect hour to the figure in Procedure 4 if terminal rentals and telecommunication charges are additional costs to the user agency:

Average computer cost per connect hour *(Procedure 4)*		$ _____
Additional $.25, if applicable	+	_____
ESTIMATED CONNECT CHARGES	=	_____/per hour

6. Calculate computer delivery system per user cost *(Procedure 5)* by multiplying the total delivery cost by .5. *(Users will average .5 hours per session on some delivery systems; however, session times do vary by type of computer delivery system used.)*

$ _____	X	.5	=	$_____
Estimated connect charges				Computer delivery fee per user

MANUAL DELIVERY

7. Compute the production and distribution costs of the manual delivery system. *(A substantial portion--if not all--of these costs should be recovered through rental fees. Also, this activity is sometimes deferred until the second year of operation.)*

PROCEDURES (Continued)

Because the needle-sort is a widely used manual delivery system, the costs and computations given below are for the needle-sort.

NEEDLE-SORT COST COMPONENTS **

	@250 decks	@750 decks
Cards, box & needle	$ 105/deck	$ 50/deck
Printed copies of career information files	35/set	20/set
Distribution (shipping costs and staff time)	25/deck	25/deck
TOTAL	$ 165/deck	$ 95/deck

** *Needle-sort production costs do not include costs of information development, needle-sort user handbooks or user inservice training.*

Estimate the number of decks to be produced and compute the approximate costs:

_____	X	_____	=	_____
# of decks		cost per deck (one manual delivery deck)		total costs

8. Calculate manual delivery system per user costs by dividing the cost of one manual delivery system *(Procedure 7)* by 150 (one manual delivery system will serve approximately 150 users):

$ _____	÷	150	=	$ _____
One Manual delivery system				Manual delivery fee per user

PROCEDURES (Continued)

9. A potential user will need to consider two costs: one for the service fee and one for the delivery fee. In estimating full cost, you must have a figure for each fee.

Per User Fee + Delivery System Fee = Full Costs

- - - - - - To Determine Possible Financial Resources - - - - - - - - -

10. Identify types of resources that could be used to financially support the system. Below are a few of the questions you need to answer:

a. What is the secondary school budgeting process? Does it allow for easy purchase of this type of service?

b. Are Vocational Education monies available to aid in the support of operating costs?

c. Do businesses support their local school's activities? Would they support a service such as this?

11. Consult with a professional staff member from another state career information system before reaching more definite conclusions. *(If your state received a Career Information Workshop under the FIPSE/ NOICC grant project, your workshop consultant will be able to provide this assistance as part of the workshop follow-up.)*

POTENTIAL USER BASE

Listed below are student and client groups that can benefit from career information services. Complete the listing for your state, including group population, percent expected to be served and the source from which you obtained the information. User base estimates are essential for calculating system costs for your state.

Population Type	Student/Client Population	Percent Expected to Be Served	Estimated Users (Col. 1 x Col. 2)
Secondary School Students (grades ___ thru 12, Av. Daily Membership) Source:			
Private Secondary School Students (Average Daily Membership) Source:			
Public Community College & 2-Year College Students (Headcount) Source:			
Public 4-year College & University Students Source:			
Private University Students Source:			
Vocational-Technical School Students Source:			
Social Agencies: Vocational Rehabilitation Clients Source:			
Corrections Institution Inmates Source:			

Population Type	Student/Client Population	Percent Expected To Be Served	Estimated Users (Col. 1 X Col. 2)
Social Agencies (cont'd.)			
CETA Clients, (including Summer Youth) Source:			
Veterans Source:			
Employment Service Clients (including WIN) Source:			
Others:			
Educational Information Centers Source:			
Educational Opportunity Centers Source:			
Adult Education Source:			
Libraries Source:			
		TOTAL	

A P P E N D I X 2:

Relating Revenues to Expenditures

Any self-sustaining organization must relate its various revenue sources to its various activities. In the operation of CIS in Oregon the "Service Fee" is the principal source of support for research and service, while other funds cover the costs of operating the various delivery systems. Computer and telephone fees, for example, are not included in the service fee but are ordinarily paid by the user institutions directly to the vendor. Similarly, needle-sort and other delivery systems that are produced by CIS have specific delivery system fees. Those expenses and fees are kept balanced in order to fulfill the policy that delivery systems should carry their own weight, neither subsidizing or being subsidized by the service fee. There are four major policies:

1. Service fees support information development and user services.

2. Each delivery system covers its own costs.

3. General office support, research, and evaluation costs are distributed proportionately among all activities.

4. Developmental projects or major services not directly involved in providing CIS services to Oregon users are individually supported by grants or contracts.

For budgeting, fee setting, and reviewing policies, it is useful to see specifically which revenues are related to what expenditures. The following table outlines those relationships.

REVENUE SOURCE	EXPENDITURE TYPE
SERVICE FEES User Service Fees State Department of Education Service Support 25% of subscriptions from non-users to apply to maintenance of information	INFORMATION AND SERVICE Information Analysis User Services Printing User's Handbooks Printing Implementation Handbooks General Management, Research and Development (pro rata)
COMPUTING CENTER FEES from computing centers running CIS	COMPUTER PROGRAM AND FILE MAINTENANCE Computer Services Personnel Contract Computer Services (equipment and machine time) General Management and R & D (pro rata)
PRIME VENDOR FEES from agencies obtaining computer and telephone services through CIS	CONTRACTING AND ACCOUNTING .05 User Service Specialist .20 Student Accountant General Management and R & D (pro rata)

REVENUE SOURCE	EXPENDITURE TYPE
NEEDLE-SORT AND SUBSCRIPTION FEES	MATERIALS PRODUCTION AND DISTRIBUTION
Needle-sort rental	Needle-sort production
Subscriptions to Printouts, minus 25% from non-users which is applied to Information Analysis	Printing (less the cost of printing User's Handbooks and Implementation Handbooks which are covered by User's fees
	Distribution
	General Management and R & D (pro rata)

General office support (less expenses directly associated with individual delivery systems), research and evaluation are pro rated among all expenditure categories. In this way, overall management and R & D expenses are distributed among the revenue sources assuming that all activities are proportional users of management and R & D services.

Career Information System
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